



Australian Bureau of Statistics

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ANNUAL SEASONAL REANALYSIS

INTRODUCTION

The annual seasonal reanalysis of the Labour Force series was conducted on estimates up to April 2013. The seasonally adjusted and trend estimates in this issue reflect adjustments made to the data as a result of this reanalysis.

While seasonal factors for the complete time series are estimated each month, they are reviewed annually at a more detailed level than is possible in the monthly processing cycle. The annual seasonal reanalysis takes into account each additional year's original data and assesses the appropriateness of prior corrections. An annual seasonal reanalysis does not normally result in significant changes to published estimates.

WHAT IS SEASONAL ADJUSTMENT?

The Labour Force data are collected monthly or quarterly using the same methods and definitions resulting in an original monthly or quarterly time series.

Seasonal adjustment is applied to some of the original series to remove influences that are:

- systematic and calendar related, for example every February the unemployment rate increases because of school leavers joining the labour force, or to account for the variable timing of the commencement of interviews in January; or
- systematic and related to holidays which move around between months but which still occur every year, for example Easter.

As systematic and calendar related influences have the same timing, same direction and similar magnitude every year, these influences are removed to create the seasonally adjusted series. The presence and size of influences due to moving holidays and variable timing of the commencement of interviews in January are estimated using a regression-ARIMA framework. This enables these influences to be accurately estimated and removed to create the seasonally adjusted time series estimates. Without accurate estimation of these effects, the seasonal pattern may be obscured, and the seasonal factor estimates may be less accurate.

The seasonally adjusted series are then smoothed to create the trend series. Seasonally adjusted estimates are revised each month to take account of the latest original estimates.

The ABS aims to produce high quality seasonally adjusted estimates that are without systematic related variation. These series can be used to better inform month-to-month comparisons.

Seasonally adjusted employment estimates include a correction for the influences of Easter and

variable timing of the commencement of interviews in January.

Seasonally adjusted aggregate hours worked estimates include more extensive corrections for the influence of public holiday and school holiday effects. Each moving holiday is estimated and removed in the aggregate state/territory estimates. State level influences are used to estimate the school and public holiday effects in the Australia and full-time/part-time by sex estimates.

During each annual seasonal reanalysis, the framework for estimating moving holidays and variable timing of the commencement of interviews in January is assessed for appropriateness. This is to ensure that the impact of these influences are being appropriately estimated from year to year, that assumptions used in the regression framework continue to be valid, and to implement improvements in estimation methodology.

IMPACT ON THE LABOUR FORCE DATA

Due to evidence of emerging seasonality, quarterly employment estimates for Australian and New Zealand Standard Industrial Classification 2006 (ANZSIC06) Division I 'Transport, Postal and Warehousing' and Division N 'Administrative and Support Services' have been changed from non-seasonal to seasonal series for the entire time period. This has resulted in less variability in the time series as the influence of systematic calendar related events have been removed.

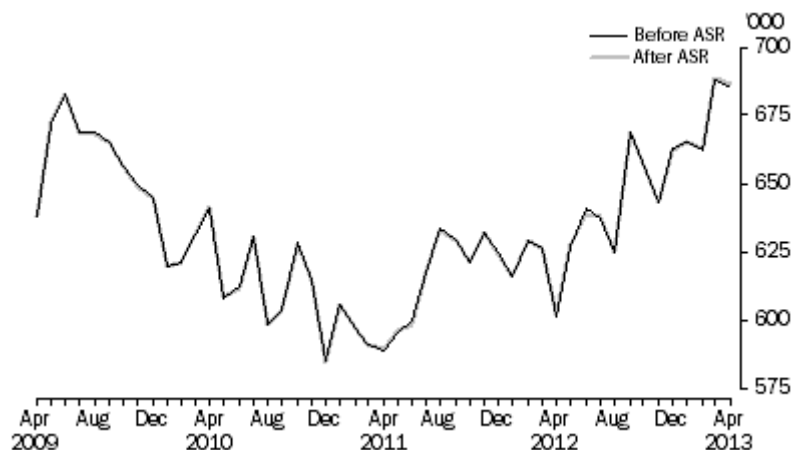
As part of ongoing improvements to the seasonal adjustment methods applied to Labour Force series, revisions were made to the way that special account is taken of the variable timing of the commencement of interviews in January. This has resulted in historical revisions being made to the seasonally adjusted estimates for employment and some of its components.

For the period February 1978 to April 2013, the employed persons level estimate changed by an average absolute monthly change of 900 persons. This includes both the normal seasonal adjustment process and the results of the annual seasonal reanalysis. The largest revision to the employed persons estimate was a decrease of 65,000 persons in January 2011. The impact on the relevant trend series was not significant.



The unemployed persons estimate changed by an average absolute monthly change of fewer than 100 persons. The largest revision to the unemployed persons estimate was a decrease of 1,700 persons in June 2012. The impact on the relevant trend series was not significant.

Unemployed Persons, seasonally adjusted



FURTHER INFORMATION

For any queries regarding the implementation of these changes contact Labour Force Estimates on Canberra 02 6252 6525, or via email at labourforce@abs.gov.au or Time Series Analysis Section on Canberra 02 6252 6345 or via email at time.series.analysis@abs.gov.au.

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